

## ABSTRACT

This thesis describes development and optimization of method for identification of polyphenols compounds present in hops (*Humulus lupulus* L.) that have potential antimicrobial activity. Within extraction of compounds from hop, minced hop cones were applied in a growth medium, where compounds diffused into the medium and created an inhibition zone after inoculated with *Streptococcus aureus*. The method combining extraction with acetone a salting out using QuEChERS principles was optimized for extraction of compounds from solid growth medium. The analysis was carried out using LC/HR-MS with a quadrupole-orbitrap hybrid mass analyzer. The MS method was developed as a screening method with a subsequent fragmentation of compound of interest on the base of inclusion mass list. The compounds extracted from inhibition zone were identified either by searching against a database or their structures have been elucidated on the basis of their fragmentation spectra.